U.S. JOINT FORCES COMMAND
JOINT CONCEPT DEVELOPMENT
AND EXPERIMENTATION'S
# CONCEPT PRIMER

# Operational Net Assessment (ONA)

***Operational net assessment provides a methodology and framework used to develop a coherent, relevant, and common understanding of the operating environment, of the adversary as an adaptive entity within that environment, and of ourselves.***

## Introduction

Any military conflict demands information, knowledge, and understanding—critical components of the military commander's decision-making process. Innovations in technology now allow an advanced knowledge environment that focuses on and supports that process and that uses the collective expertise of our own sources and allies. Even with the most advanced information tools, understanding and knowledge do not reside in databases, but in the minds of people. Still, the coherent and integrated application of national power requires extensive understanding and knowledge well beyond that of an individual, of the commander's immediate staff, or of direct support organizations.

## Concept Description

**OPERATIONAL NET ASSESSMENT**
- ❑ **Is both a process and a product**
- ❑ **Works hand in hand with effects-based operations to create, identify, and assess conditions in the battlespace.**

Operational net assessment integrates people, processes, and tools that use multiple information sources and collaborative analysis to generate products that improve command decision-making. The ONA concept also works hand in hand with the effects-based operations concept, which aims to change or direct the behavior of a complex adaptive target. ONA is the tool that identifies the correct targets, links, and nodes that will create the desired effect.

The system-of-systems analysis of the ONA enables us to set environmental conditions to force the target to adapt and to choose only options that we make available. The understanding gained through this integrated and collaborative process provides the basis for the application of our capabilities to influence an adversary.

ONA enables effects-based operations by providing an expanded view of the combatant commander's battlespace. This further allows insight into complex relationships, dependencies, and vulnerabilities within and throughout an adversary's political structure, military capabilities, economic system, social structure, and information and infrastructure networks. Such analysis provides unparalleled insights into their basic fabric. Viewing the adversary as an adaptive system-of-systems allows us to understand how we may use the full force of our national and coalition diplomatic, information, military, and economic power to achieve far-reaching effects. ONA aims to provide a thorough understanding of the total effect and of how to achieve it.

## Implications for Joint Warfighting

Operational net assessment relies on habitual, collaborative access to those who possess knowledge and skills that are tailored to the commander's decision needs. This continuous and dynamic process produces a coherent, relevant, and shared knowledge environment, as well as supporting tools for planners and decision-makers to use to focus warfighting capabilities. By identifying options that may influence enemy behavior and capability, ONA helps the operational-level commander to shape operations to persuade, deter, coerce, or compel the enemy. ONA also anticipates the potential effect of our actions on the extended operating environment, which includes not only the enemy, but also our allies, neutral parties, and our own interests.

To implement an optimally effective operational net assessment at the combatant command:

- Establish organizational roles and responsibilities within the combatant command's standing joint force headquarters or other operational headquarters
- Establish a collaborative information environment to achieve a knowledge advantage
- Establish habitual relationships with centers of excellence and communities of interest to demonstrate a knowledge advantage capability
- Integrate analytical and decision-support tools for knowledge management and for modeling and simulation.

## Concept Application

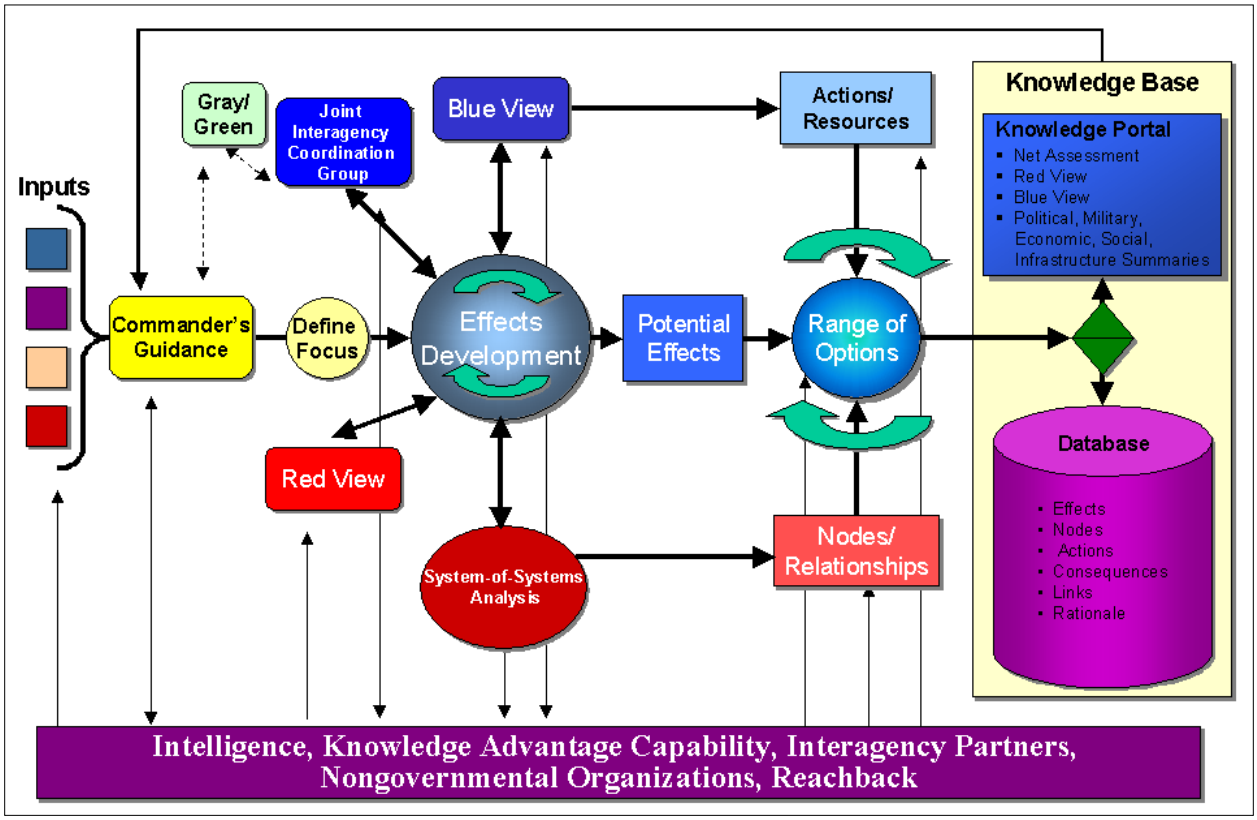
Development of the ONA begins with combatant commander guidance that directs the standing joint force headquarters or employing operational command to a specific focus area within his area of responsibility.

Through its network of people and organizations, the ONA process produces:

- A Web-based portal to the system-of-systems analysis that examines the adversary's political, military, economic, social, infrastructure, and information systems. It includes friendly-systems analysis, red- and blue-force views of each other, and potential red-force actions.

**SYSTEM-OF-SYSTEMS ANALYSIS**
**is based on understanding the adversary as a complex, adaptive system of political, cultural, technological, military, and economic components and then on identifying the key nodes and links in that system that would most likely result in achieving the desired effects.**

- A Web-based portal to the net assessment of blue- and red-force objectives, capabilities, and vulnerabilities
- An ONA database application that captures a range of potential effects with preanalyzed links to nodes, actions, resources, and potential second- and third-order and unintended effects. The ONA database contains tools used to support planning, operations, effects assessment, and situational understanding.




***The integrated, iterative ONA and effects-based operations process develops over time. Strategic guidance, security cooperation plans, and coalition agreements shape the commander's guidance and define the focus and boundaries. Well before a potential crisis develops, the commander may direct his staff to begin assessments of potential adversaries and the environment. Potential effects consider environmental assessment and regional concerns, as well as red- and blue-team and interagency perspectives. Based on systems analysis of the environment, knowledge of our own capabilities and resources, and potential effects, a range of options is developed to achieve an effect. A key product of this process, the knowledge portal houses hyperlinked knowledge summaries developed by the commander and his staff. Specific effects, nodes, actions, resources, potential consequences, and rationale are linked within the ONA database.***

Implementation of the ONA process within a standing joint force headquarters provides the combatant commander with significant capabilities:

***Effects Development—***The standing joint force headquarters develops baseline potential effects concurrently with the system-of-systems analysis. Baseline effects describe adversary behavior or capabilities. For example, "Red forces are unable to threaten freedom of navigation" could be a baseline effect that blue forces may want to achieve in a particular focus area. The standing joint force headquarters evaluates blue- and red-force objectives, strategies, strengths, and vulnerabilities in a wargame or brainstorming session that produces effects to be included in the ONA database.

***System-of-Systems Analysis—***Within the standing joint force headquarters, a dedicated systems-of-systems analysis element functions as the lead for systems analysis. Analysts examine and synthesize existing and developing information about the adversary and the battlespace into coherent, relevant knowledge that commanders, planners, and operators may use. Analysts identify an adversary's strengths, vulnerabilities, relationships, and dependencies that support achievement of the commander's desired effects. They also know how the commander potentially may influence the adversary's system, as well as the effects of friendly actions on the system.

***Effects-to-Task Linkage—***The standing joint force headquarters connects nodes to effects, actions to nodes, and resources to actions to create effect–node–action–resource links. Led by the information superiority group, the standing joint force headquarters uses systems analysts, planners, operators, a joint interagency coordination group, and other collaborative partners to analyze and create these links. Additional effects that may arise from the execution of these links are a key consideration. In the event of unintended or undesired effects, the ONA builders may employ risk-mitigation measures. The ONA baseline-building process is completed when the links are added to the ONA database.

***Updating the ONA—***The baseline ONA is continuously reviewed, updated, improved, and revised. As the plans group receives new information or updated commander's guidance, it adds new effects to the baseline ONA and incorporates appropriate changes.

***Planning Integration—***The ONA supports the planning process by proposing analyzed options, expressed as effect–node–action–resource links, and by improving the standing joint force headquarters' knowledge of friendly and adversary capabilities. The ONA refocuses on emerging effects and effect–node linkages. Specifically, when the process identifies desired effects that derive from mission analysis or course-of-action development, the staff reorients the ONA to reflect these effects. If effects are not addressed in the baseline, new analysis and linkages are investigated.

## Concept Growth

The ONA concept continues to mature within the standing joint force headquarters' prototyping activities at combatant commands, where such exercises around the globe result in further evaluation. ONA conceptual tasks and enhancements and an experimentation plan that addresses selected tasks have been identified. ONA development to date has produced a transformation change package, currently under review by the Joint Requirements Oversight Council. Initial efforts to create the knowledge advantage capability necessary for ONA focus on the Department of Defense. As it matures, however, ONA will use the specialized expertise of "centers of excellence" both within and outside the DoD. This collaborative network's success depends on education and training, materiel, and organization.

## Conclusion

The more we know about the enemy, the operational environment, and ourselves, the more precisely we can focus our capabilities to produce desired effects while mitigating undesired effects. The operational net assessment provides the foundation for a coherent and relevant knowledge environment to help decision-makers focus capabilities to generate decisive effects. The ONA process is feasible because of improved information technology; increased impetus for interagency collaboration inspired by homeland security issues; and improved virtual collaboration.

Many ONA initiatives focus on providing greater access to data and information. ONA provides an operational application to convert that information into "actionable" knowledge. The goal is to tap into existing capabilities and emerging initiatives in order to optimize the available information and expertise, so that the combatant commands may develop the knowledge needed for decision-making. The ONA concept represents the complex 21st-century security environment by demonstrating our understanding of a potential adversary as a complex, adaptive system. It also offers a unique perspective by instituting a red-versus-blue wargaming process to assess how we are viewed through the eyes of our adversary. Ultimately, it may create a shared information space in which our nation's diplomatic, information, military, and economic capabilities may be networked and integrated to enable combatant commanders to plan faster, to make better decisions, and to achieve decisive effects.